

YAW CONTROL FOR AN AUTOMOTIVE VEHICLE USING STEERING ACTUATORS

Abstract of Disclosure

A stability control system (24) for an automotive vehicle includes a plurality of sensors sensing the dynamic conditions of the vehicle. The sensors include a steering angle sensor (35) and a yaw rate sensor (28). The controller (26) is coupled to the steering angle sensor (35) and the yaw rate sensor (28). The controller (26) determines a desired yaw rate in response to the steering wheel angle input, determines a corrected steering wheel input as a function of the desired yaw rate of an ideal vehicle and the vehicle yaw rate, and controls the road wheel steer angle (front, rear, or both) steering actuator in response to the corrected steering wheel input, the yaw rate and the modified steering wheel input, vehicle speed, lateral acceleration, longitudinal acceleration, yaw rate, steering wheel angle, and road wheel angles.

Figures